Title (en)

Phosphorus-vanadium-mixed oxide oxidation catalysts and processes for the preparation and use thereof.

Title (de)

Gemischter Vanadium-Phosphor-Oxid-Oxydationskatalysator und Verfahren zu seiner Herstellung und seine Verwendung.

Title (fr)

Catalyseur d'oxydation mixte d'oxydes de phosphore et de vanadium et procédé pour sa préparation et son utilisation.

Publication

EP 0151912 A2 19850821 (EN)

Application

EP 84870199 A 19841227

Priority

- US 56636083 A 19831228
- US 56636183 A 19831228
- US 56636283 A 19831228

Abstract (en)

Maleic anhydride is produced by the oxidation of a non-aromatic hydrocarbon having at least four carbon atoms in a straight chain with molecular oxygen or a molecular oxygen-containing gas in the vapor phase in the presence of a phosphorus-vanadium mixed oxide oxidation catalyst. Such catalysts are are prepared by introducing a substantially pentavalent vanadium-containing compound and a pentavalent phosphorus-containing compound into an alcohol medium capable of reducing the vanadium to a valence state less than -5 in the presence of an alcohol-modifying agent to form a phosphorus-vanadium mixed oxide catalyst precursor. The catalyst precursor is recovered, dried, formed into desired structures, and calcined at temperatures from about 250 DEG C to about 600 DEG C. The catalysts are highly effective in that they exhibit a weight weight productivity of at least 70 grams of maleic anhydride per kilogram of catalyst per hour.

IPC 1-7

B01J 27/18; B01J 23/22; C07C 51/215; C07C 51/145

IPC 8 full level

B01J 27/198 (2006.01); **C07C 51/215** (2006.01); **C07C 51/25** (2006.01); **C07C 51/31** (2006.01)

CPC (source: EP)

B01J 23/002 (2013.01); **B01J 27/198** (2013.01); **C07C 51/215** (2013.01); **C07C 51/25** (2013.01); **C07C 51/252** (2013.01); **C07C 51/313** (2013.01); B01J 2523/00 (2013.01)

Cited by

BE1008103A3; CN106749126A; EP0608837A1; US5496787A; US5641722A; US5773382A; US5168090A; EP0384749A1; US5032564A; US6407030B1; US7157403B2; WO9529006A1; WO9324225A1; WO9205870A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0151912 A2 19850821; **EP 0151912 A3 19850925**; **EP 0151912 B1 19880803**; BR 8406746 A 19851022; CA 1227784 A 19871006; DE 3473122 D1 19880908

DOCDB simple family (application)

EP 84870199 A 19841227; BR 8406746 A 19841227; CA 469844 A 19841211; DE 3473122 T 19841227